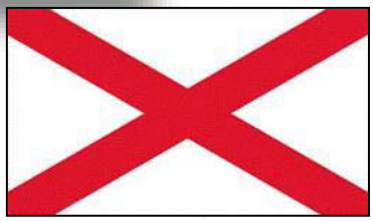
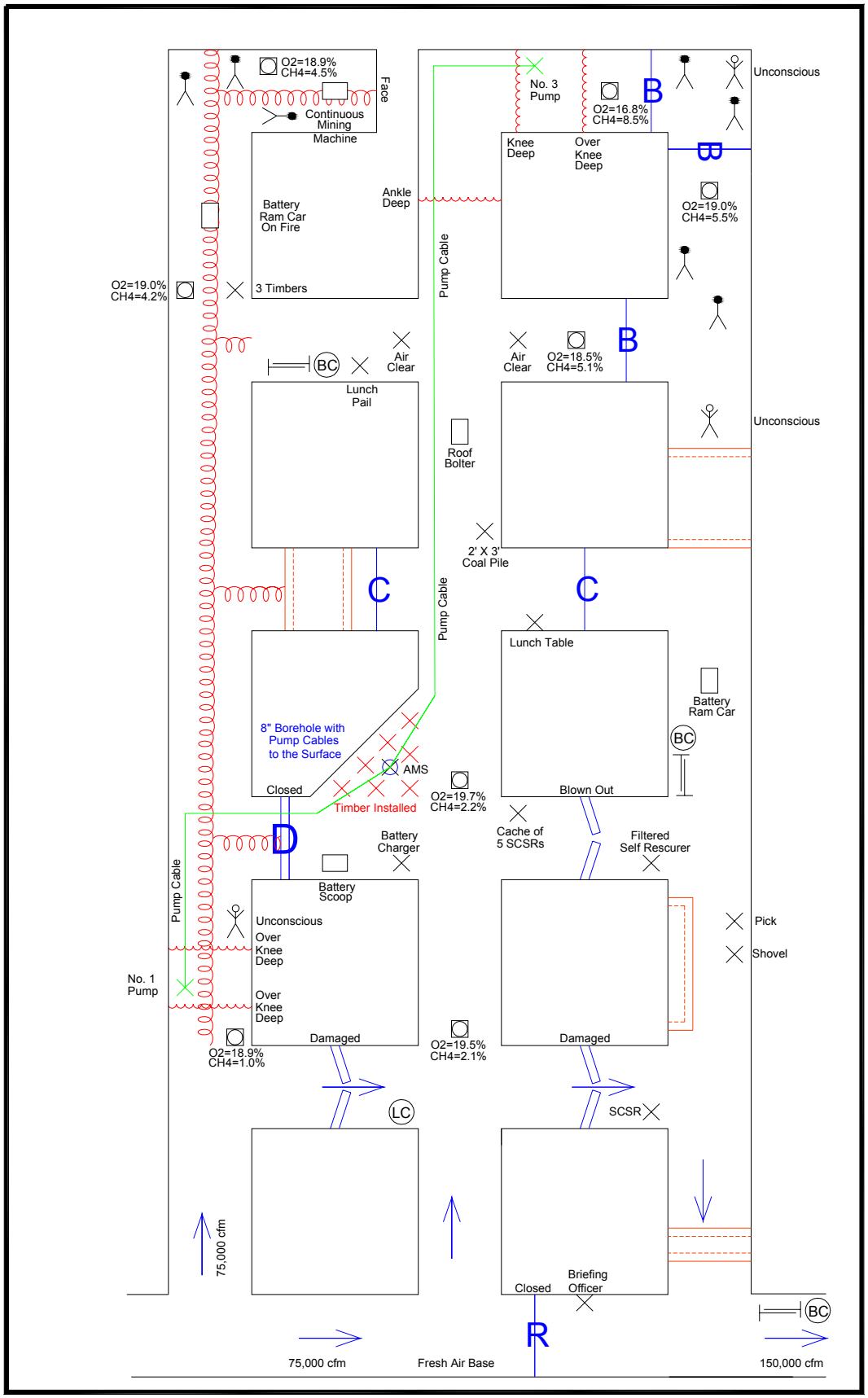
Alabama Coal Association
30th Annual Mine Rescue Contest



May 17, 2006
Bevill State Community College


O2=18.9%
CH4=4.5%
Face
Continuous
Mining
Machine
Battery
Ram Car
On Fire
Ankle
Deep
3 Timbers
O2=19.0%
CH4=4.2%
BC
Air
Clear
Lunch
Pail
C
8" Borehole with
Pump Cables
to the Surface
Closed
AMS
Timber Installed
D
Battery
Charger
Battery
Scoop
Unconscious
Over
Knee
Deep
Over
Knee
Deep
Damaged
O2=18.9%
CH4=1.0%
Pump Cable
No. 1
Pump
LC
75,000 cfm
No. 3
Pump
B
O2=16.8%
CH4=8.5%
Knee
Deep
Over
Knee
Deep
Unconscious
O2=19.0%
CH4=5.5%
Pump Cable
Air
Clear
O2=18.5%
CH4=5.1%
Roof
Bolter
2' X 3'
Coal Pile
Lunch Table
Battery
Ram Car
Blown Out
O2=19.7%
CH4=2.2%
Cache of
5 SCSRs
Filtered
Self Rescurer
Pick
Shovel
Damaged
O2=19.5%
CH4=2.1%
SCSR
Closed
Briefing
Officer
R
75,000 cfm
Fresh Air Base
150,000 cfm

STATEMENT

Good morning (afternoon). My name is _____ and I am the Mine Manager at the Sunshine Coal Company, Bright Star Mine. Thank each of you for coming to help us in our time of crisis.

This morning the 9 person day shift crew entered the mine at 7:00 a.m. as usual. The pre-shift had been called out by the owl shift section foreman. He had reported that there were no hazards observed. However, he stayed between shifts to do some repair work on a battery ram car and did not return to the surface. The day shift called out from the 1st Left Section and intended to produce coal shortly thereafter. At approximately 8:45 a.m., the owl shift foreman called outside and informed us that he had been working in the area of the power borehole in No. 2 entry and felt a concussion and was blown off his feet. When he was able to come to himself he smelled smoke from inby and was going to check out the problem and would get back with the dispatcher on the surface when he determined what had occurred and if he needed assistance. Several attempts to reach him after that have been unsuccessful. A miner entered the No. 1 entry to attempt to find the crew and he encountered smoke and returned to the surface. We have established a fresh air base at this location and appreciate any assistance that you can render.

This mine has had numerous ignitions during the past several weeks due to our mining in an area prone to methane bleeders in the roof. We made an air change over the weekend and increased our air to the section and have been relatively successful in the methane control in the past few days. The mine is subject to areas of unsafe roof, accumulations of water and an uneven mine floor on a steep pitch. We have a pump system on the section. Power for the pumps is supplied from an 8 inch vertical borehole located in the

No. 2 entry approximately 3 or 4 crosscuts outby the face. This borehole has been plugged at the top and cannot be used for ventilation purposes. The sole purpose of the borehole is for transmission of power and monitoring of methane. The hole contains power cables for the water pumps and an intrinsically safe AMS line. Since the map that we have was updated 3 weeks ago, we are unsure of the exact location of the faces and the borehole. We do know that the borehole penetrated the coal bed within a pillar instead of in the entry and the continuous mining machine was used to slab a pillar so the borehole could be used for power. We were experiencing a lot of problems with methane accumulating in the borehole while drilling and there were several time periods when drilling was stopped due to explosive mixtures coming from the hole. Methane continued to be a problem once the hole penetrated the coal bed so we installed an AMS at the bottom of the hole to monitor the atmosphere within the hole. This AMS transmits data to the surface monitoring location and is monitored 24 hours per day. When the AMS indicates that the methane in the hole reaches 4% or greater, the power cable for the pumps is shut off and we do not energize the cable until the methane is less than 4%. This is the safety factor we have chosen for the mixture of methane in the hole to prevent more incidents in the borehole like we had during drilling. We will be monitoring the AMS at the bottom of the borehole at all times and will be giving you five minute updates of the methane levels for your information. The current readings from the AMS are as follows

CO equals 108 Parts Per Million

CH4 equals 2.1%

O2 equals 19.9%

You may assume, unless told otherwise, that readings given to you are valid until you receive new readings. For this reason, should you choose to energize the pump cable at any time the cable must be de-energized to prevent further ignitions or explosions within the hole once you have completed your task,

The areas outby this fresh air base have been explored by previous teams. You have a map of the explored areas of the mine. This map is up to date and all ventilation controls are shown as left by the teams. Air quantities measured by the teams are also shown. Any work you require outby the fresh air base will be accomplished by making a request to the superintendent for the change to be made. The superintendent will then inform your briefing officer when the changes you request are complete. Placards will be changed to indicate the ventilation changes that you have requested if those changes affect ventilation inby this point.

We have a fan that is operating exhausting and air is entering the section in No. 1 entry and returning out the No. 3 entry. Entries are numbered left to right. All power inby this point is currently de-energized, including the borehole power cable for the pumps, except for the power to the intrinsically safe AMS line which must remain energized for the safety of you and the miners. You may request that power be restored at any time. All appropriate officials have been notified and are onsite to assist you if necessary. A back-up mine rescue team is available should you need assistance.

You may begin when you are ready.

PROBLEM

EXPLORE THE ENTIRE

MINE IF IT CAN BE

DONE SAFELY.

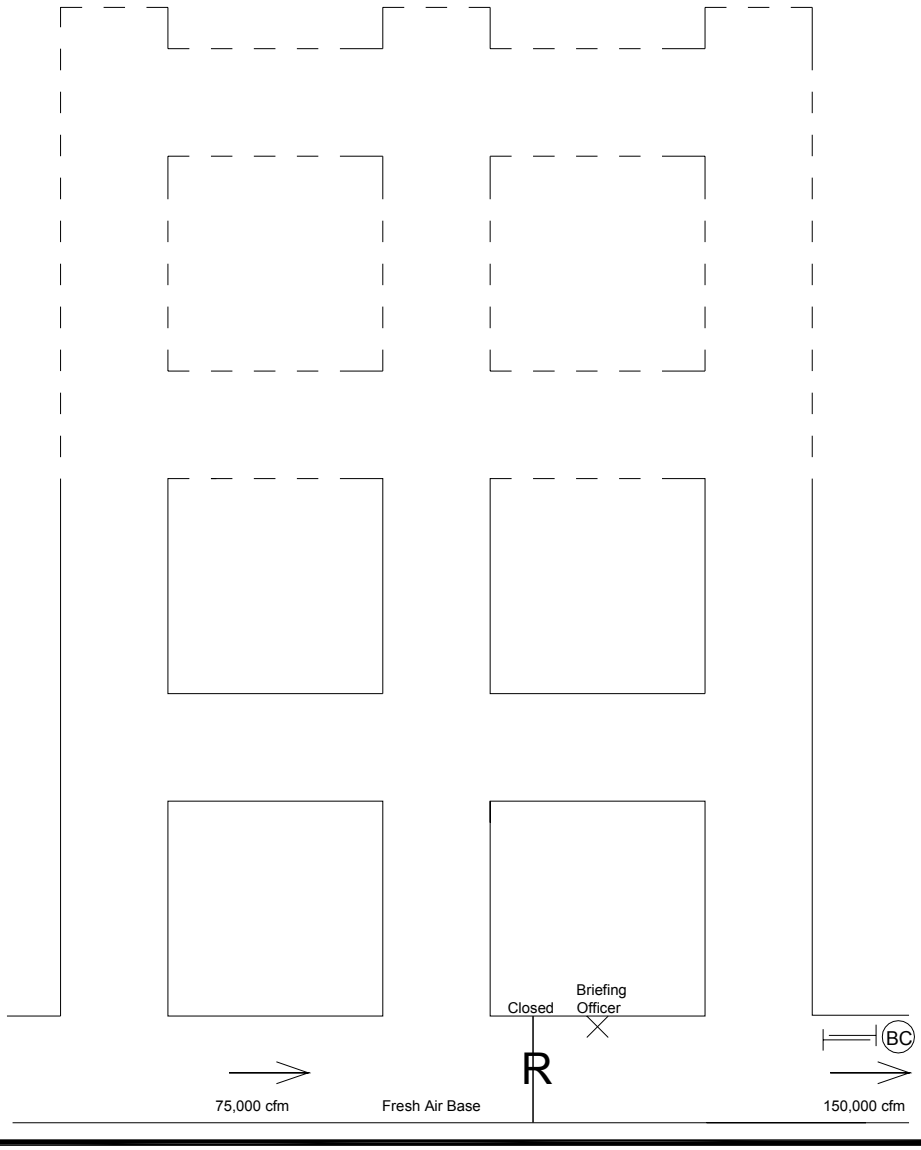
LOCATE ALL MISSING

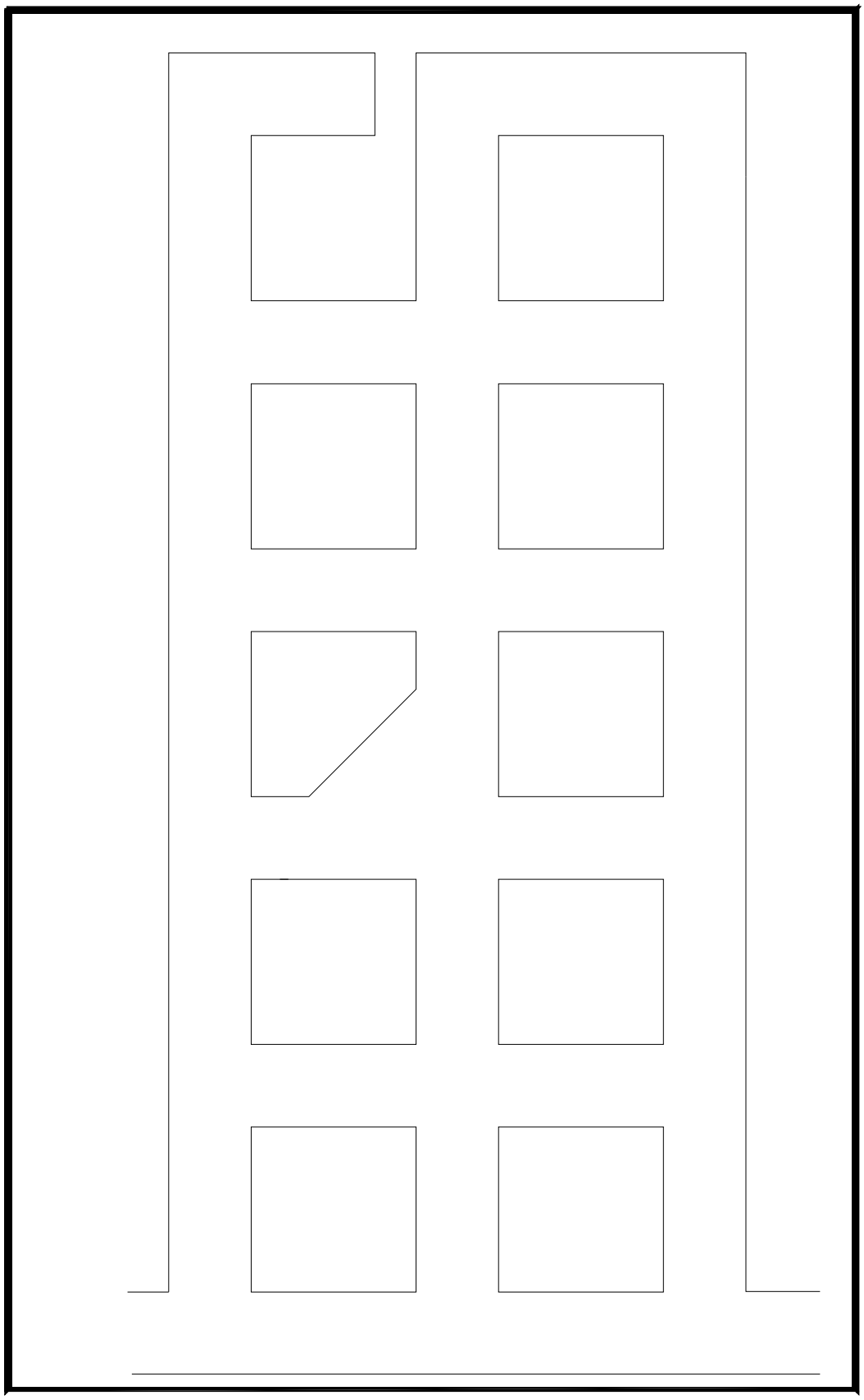
PERSONS AND BRING

ANY SURVIVORS TO

THE FRESH AIR

BASE.


Briefing
Officer
Closed
BC
R
75,000 cfm
Fresh Air Base
150,000 cfm



2006 MINE RESCUE EXPLORATION

NOTE TO JUDGES: The team must set up their equipment on the same side of the regulator where the briefing officer is located. Make sure that they are guided through or around the regulator to facilitate this.

The team will begin to explore all areas of the fresh air base. In order to accomplish this, team must build airlock to enter the closed regulator to the left of the briefing officer. Completion of the exploration of the fresh air base may then be accomplished. Since there are no timbers for the unsafe roof inby the FAB in No. 3 entry, team may enter the section via either No. 1 or No. 2 entry. We will assume that team enters the section in No. 2 entry.

TS-1 will be made in the 2-1 intersection. Team must make team check at this team stop. Examination will be made to the right toward No. 3 entry, inby in the No. 2 entry and to the left into No. 1 entry right crosscut. Team may choose at this time to continue exploration into either crosscut since neither is blocked.

TS-2 Assume that team continues exploration into No. 3 entry to the 3-1 intersection. They will examine outby in No. 3 entry to the inby end of the unsafe roof and make appropriate gas tests and roof tests. They will examine inby in No. 3 entry and make an appropriate roof test for the unsafe roof/rib. Team must then tie across into the No. 1 entry.

TS-3 will be made in the 1-1 intersection. Team will tie outby in No. 1 entry and inby into the smoke. **NOTE: At this time all team members must remain on the lifeline as long as any team member is in the smoke.** Since Nos. 1 and 2 entries are contaminated inby the first line of crosscuts, exploration may continue in any entry (contaminated or adjacent). No. 1 entry is blocked by the water over knee deep, team may continue exploration to

TS-4 in the 2-2 intersection. Team may examine to the left to the closed door in the stopping inby in the No. 2 entry including the area of the 8 inch borehole and to the right. Appropriate gas and roof tests will be required.

TS-5 will be made in the 3-2 intersection through the blown out stopping. Team will complete roof test outby, if left incomplete from previous exploration, and inby in the No. 3 entry. Team may continue exploration in either No. 2 or No. 3 since No. 1 entry is blocked at this point.

TS-6 may be made in the 2-3 intersection. Team will make all required tests to the left, to the right and inby. Team may continue exploration by attempting to tie across into the No. 1 entry through the curtain. They will encounter the unsafe roof to the left of the curtain and be unable to continue. Continued exploration will be toward the No. 3 entry to tie across.

TS-7 will be made in the 3-3 intersection. Team will tie outby making appropriate gas tests and must make appropriate roof tests for the unsafe roof inby. Team will return to the No. 2 entry for further exploration.

TS-8 will be made in the 2-4 intersection. Team will examine to the right to the barricade. There will be no response. Team will examine to the left to the No. 1 entry toward the area of the smoke and inby in the No. 2 entry. Team must continue to explore outby into the No. 1 entry which is unexplored.

TS-9 will be made in the 1-4 intersection. Team will examine outby, making appropriate gas tests and will examine inby where they will encounter the battery ram car on fire. Team will extinguish the fire and continue to as far as they can while on the lifeline without advancing the No. 5 team member inby the inby corner of the intersection. This is because of the unexplored area outby in the No. 1 entry at the 1-2 intersection. Team would be appropriately discounted for unsystematic exploration in this case as referenced below.

Rule 45E *– Where crosscuts are blocked, the No. 5 team member may not advance beyond the inby corner of the second crosscut before the team ties across and/or behind into all accessible areas outby that crosscut. Where crosscuts are staggered, the second crosscut will be determined by two crosscuts on the same side, either left or right, in the entry being traveled. After the accessible areas outby are completely explored to the side*

where the two crosscuts were determined, the team will be permitted to explore the original entry until it encounters the second crosscut to the other side. This may require building an airlock or ventilation controls such as a stopping, door, etc., or returning to the fresh-air base, and exploring into other entries at the discretion of the team and according to the conditions of the mine.

TS-10 will be made outby in the 1-3 intersection. Team will examine to the No. 1 end of the unsafe roof between No. 1 and No. 2 entry and make appropriate roof and gas tests. Team may then continue to explore outby.

TS-11 will be made in the 1-2 intersection. Team will locate the unconscious victim inby the water over knee deep. **Keep in mind that all team members must still remain on the lifeline as they are still in smoke.** Team may remove the patient to the fresh air base.

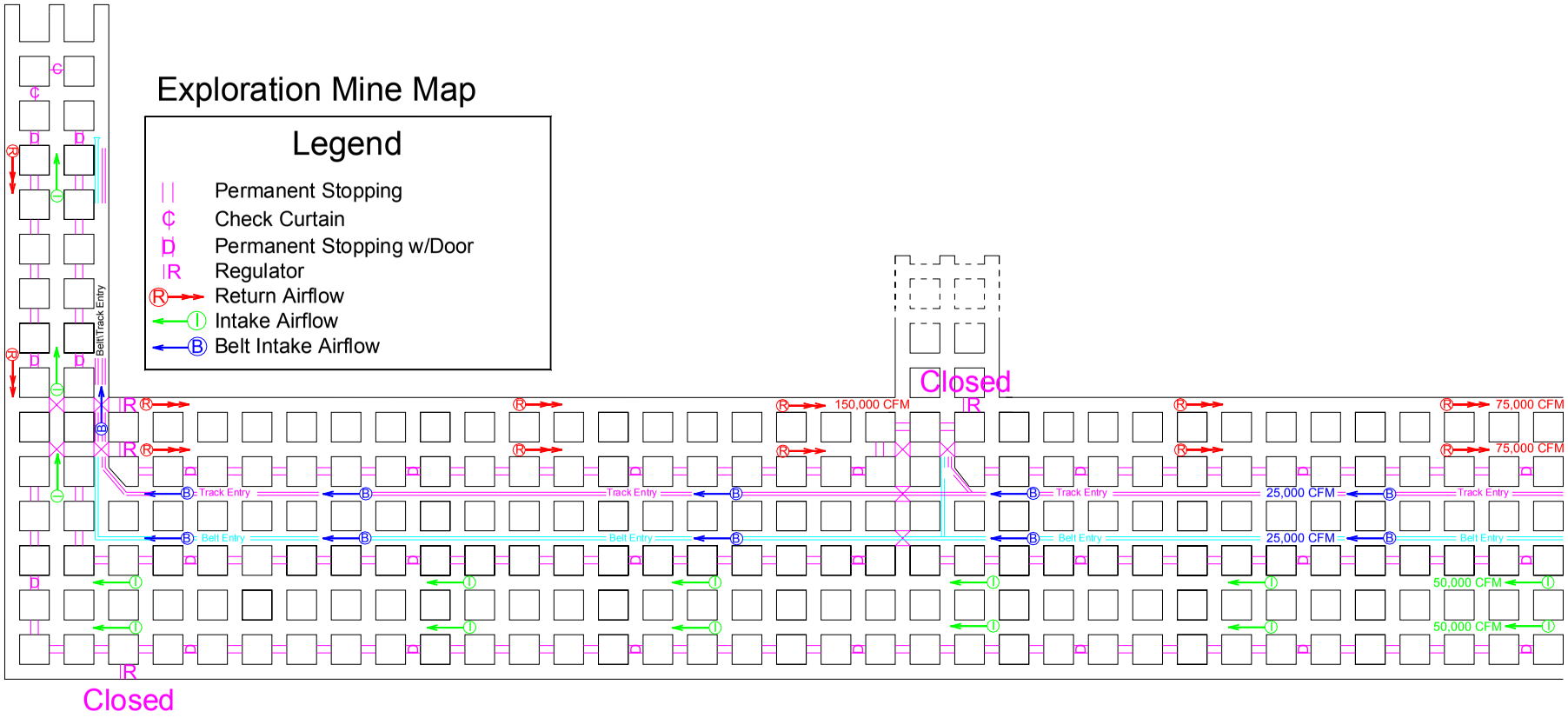
NOTE: To accomplish the rescue of the unconscious patient, team may request that the No. 1 pump be energized. Should this occur, they would notify the briefing officer of the request and the briefing officer would then request that the pump be energized to the fresh air base judge. The request would immediately be granted and upon the pump being energized, the judges would immediately turn over the card indicating that the water is has been pumped out. The team may proceed through the water and outby in the No. 1 entry. Team may request that the briefing officer tear down the regulator at the fresh air base and short circuit the air straight across to facilitate communication with the briefing officer. This would require only that the request for an air change be made. Team may also decide to retreat with the patient the same way that they advanced into the area and return to the FAB in that manner. Team may then re-enter the section for continued exploration.

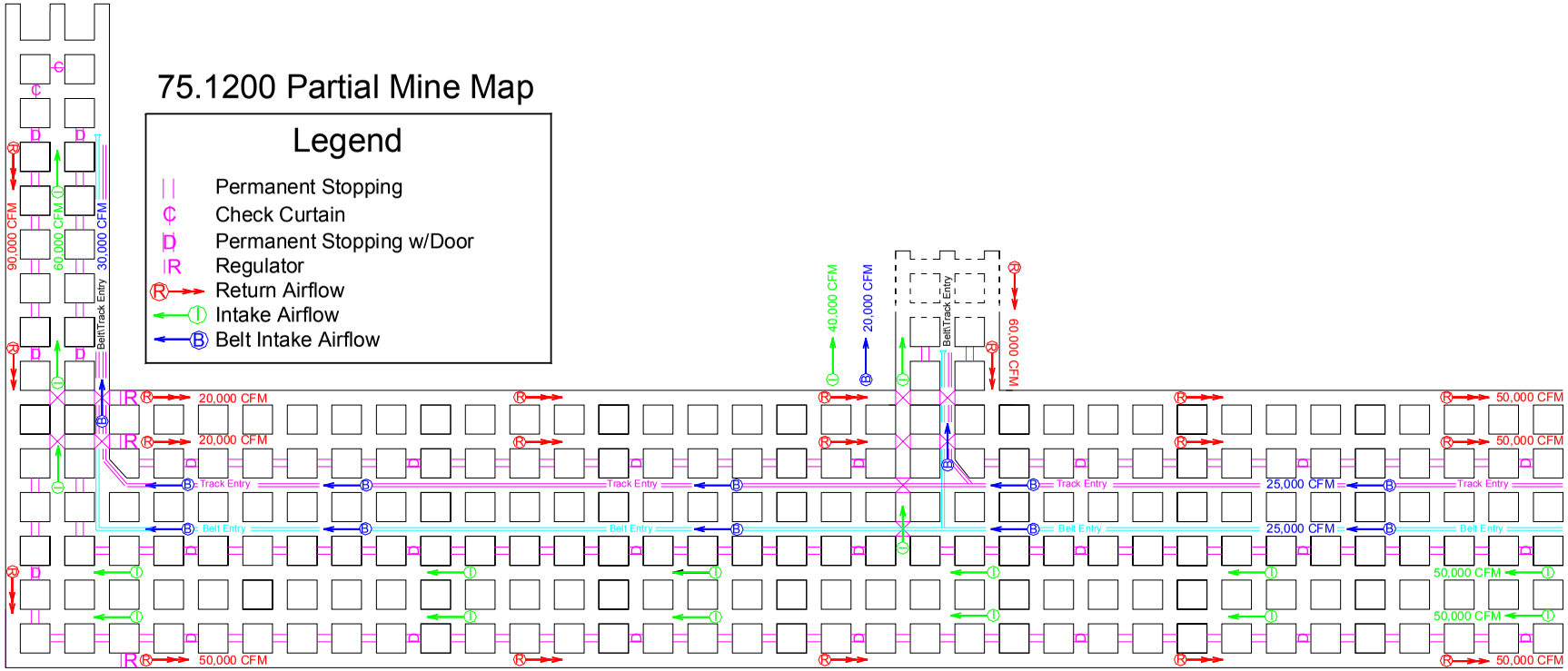
TS-12 will be made in the face intersection of the No. 2 entry. Team may advance into the water ankle deep and through the water knee deep until they encounter the water over knee deep. Team may request of the briefing officer that that the No. 3 pump be energized in order to pump the water over knee deep in the face intersection of the No. 2 entry. Should this request be made, approval will immediately be granted by the fresh air base judge and the water would immediately be pumped out. The judges will turn over

the placard to indicate that the water has been removed. The team will then find the barricade from which there will be no response. Since the atmosphere in front of the barricade is not respirable, team is not able to breach the barricade at this point and must continue exploration.

TS-13 will be made in the face of the No. 1 entry. Team will make all required gas and roof/rib/face tests from this team stop. Team must also remain on the lifeline as the smoke has not been cleared. Once this area has been explored, all areas of the mine that can be safely examined without setting timbers have been explored.

Team has only located the three timbers from inby 1-4 intersection so they are unable to set the timbers through the unsafe roof outby 3-4 due to size. Team does not have enough line curtain to ventilate the barricade in inby 2-4 so they must attempt to ventilate the barricade in 2-4 right crosscut. **Team must keep in mind the location of the briefing officer and that the atmosphere at his location must remain respirable at all times**.


Exploration Mine Map
Legend
Permanent Stopping
Check Curtain
Permanent Stopping w/Door
Regulator
Return Airflow
Intake Airflow
Belt Intake Airflow
Belt/Track Entry
Closed
150,000 CFM
75,000 CFM
75,000 CFM
Track Entry
Belt Entry
25,000 CFM
25,000 CFM
50,000 CFM
50,000 CFM
Closed


75.1200 Partial Mine Map
Legend
Permanent Stopping
Check Curtain
Permanent Stopping w/Door
Regulator
Return Airflow
Intake Airflow
Belt Intake Airflow
90,000 CFM
60,000 CFM
30,000 CFM
Belt/Track Entry
40,000 CFM
20,000 CFM
60,000 CFM
Belt/Track Entry
20,000 CFM
20,000 CFM
50,000 CFM
50,000 CFM
Track Entry
Track Entry
Track Entry
25,000 CFM
Track Entry
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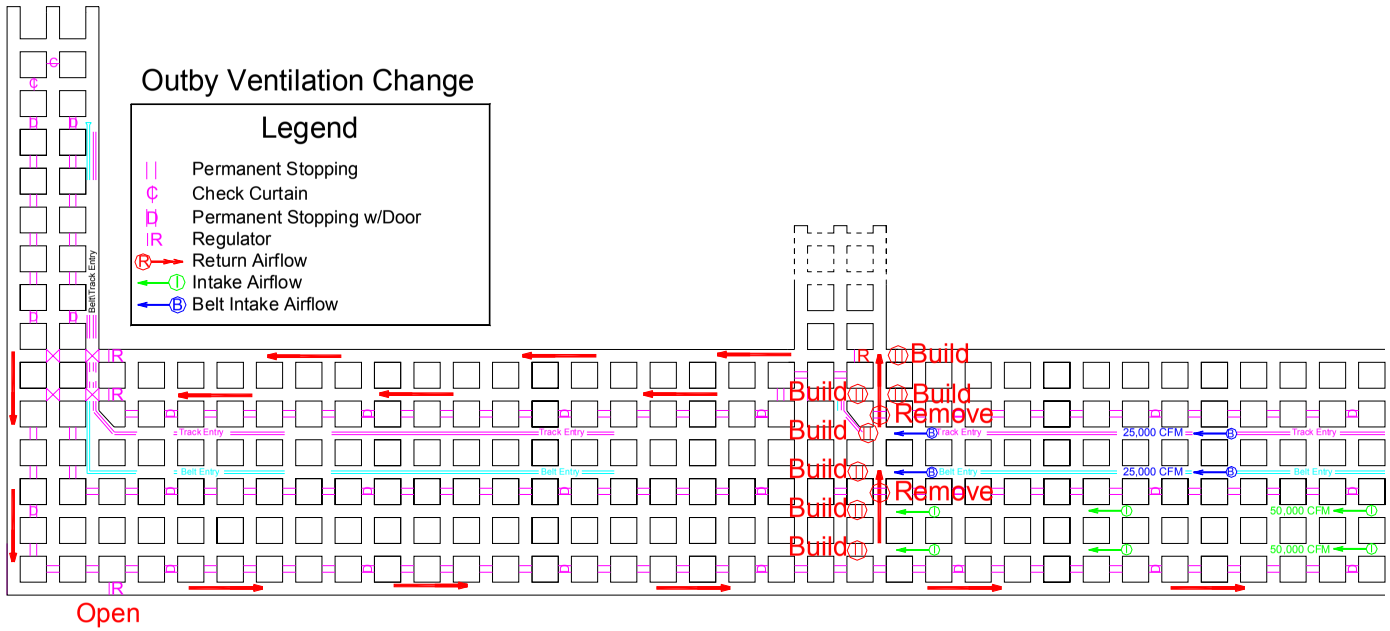
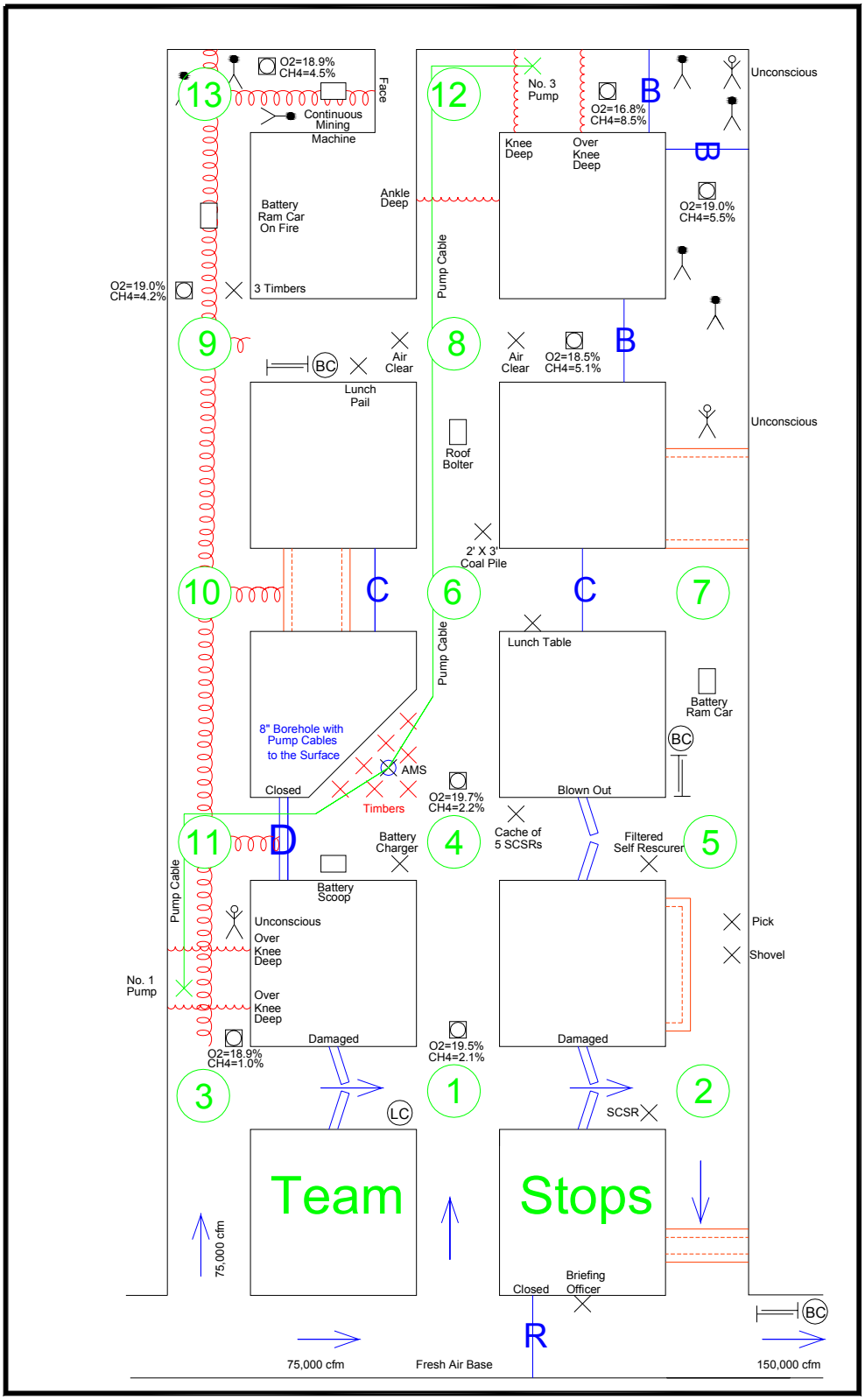
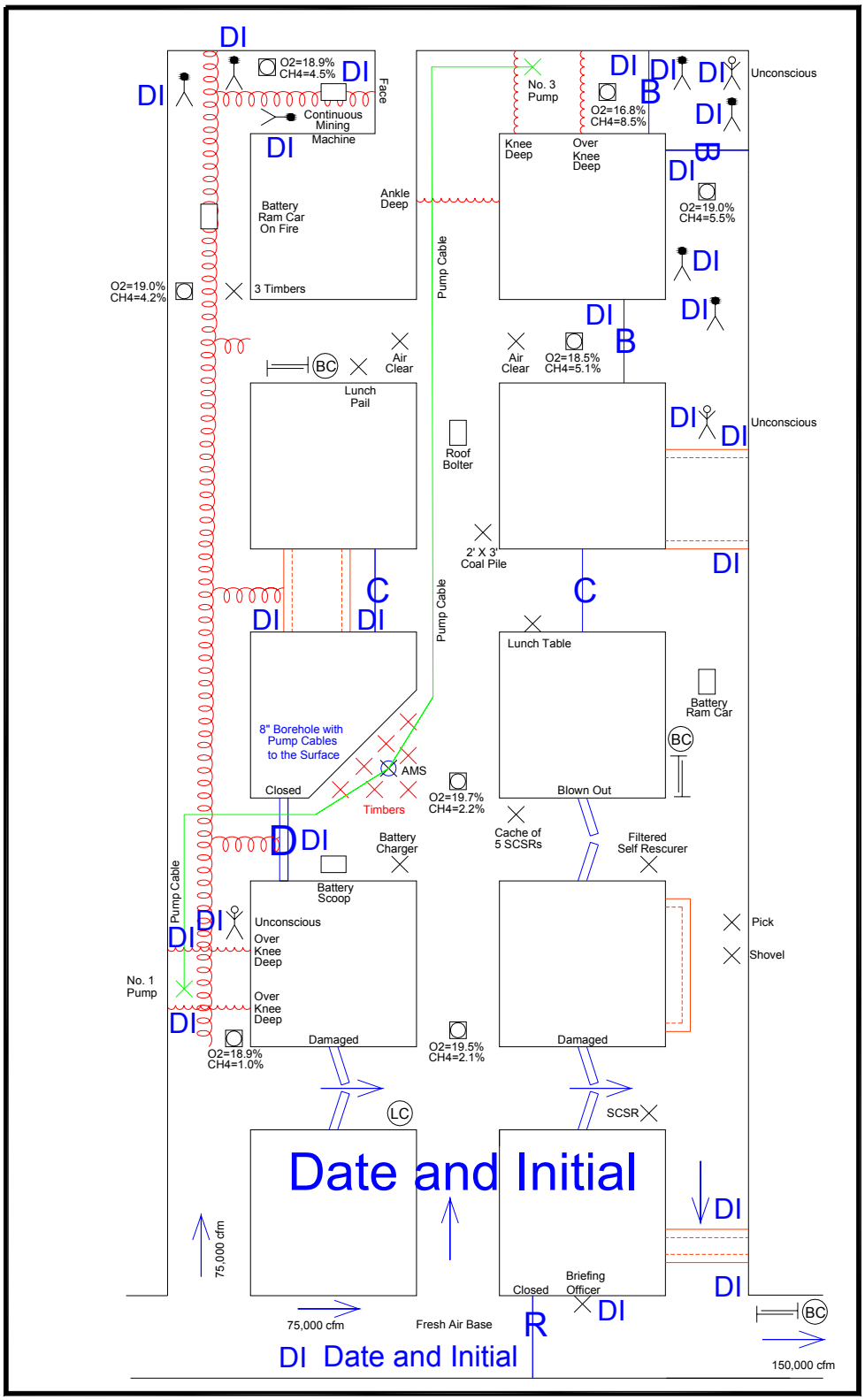
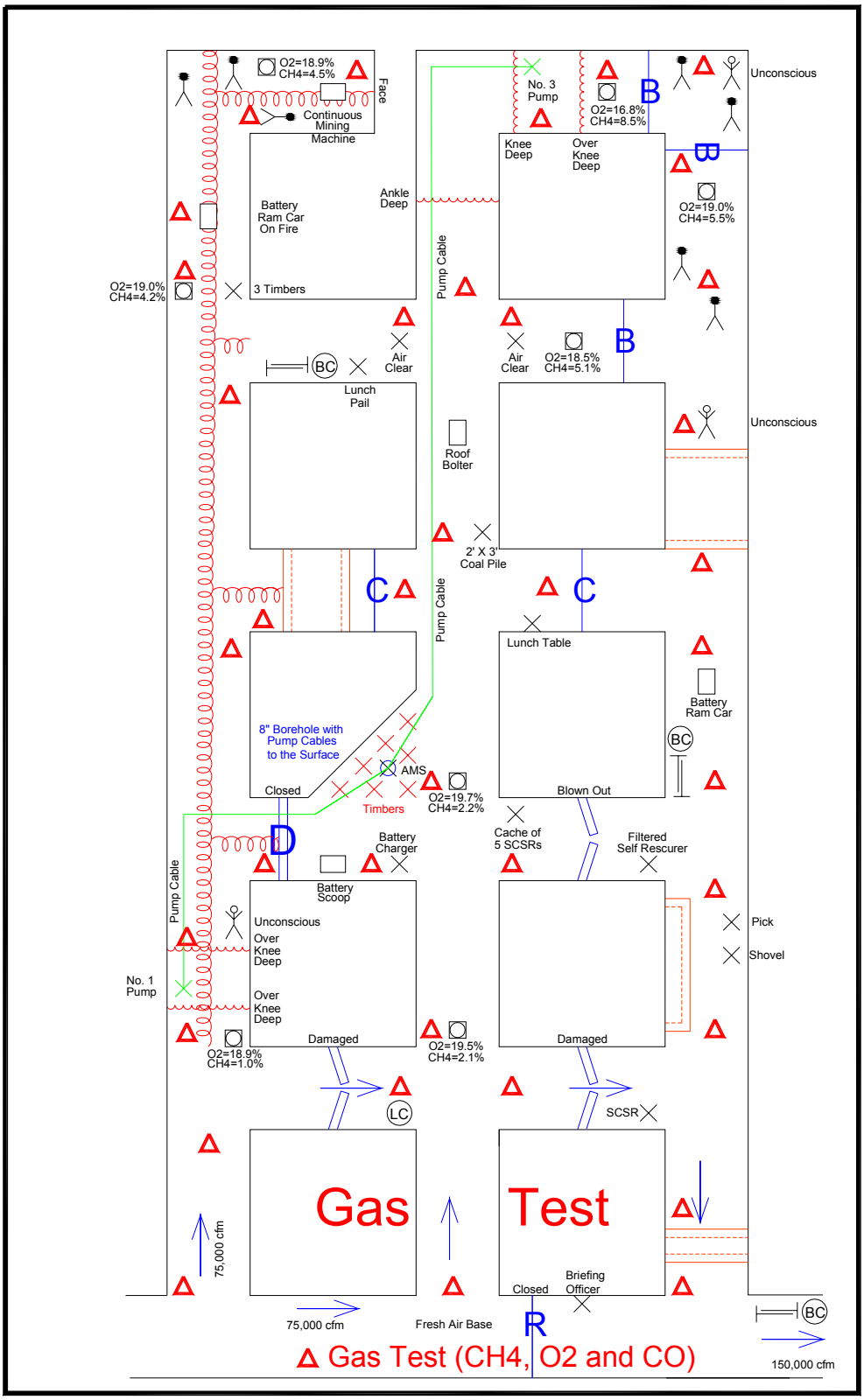
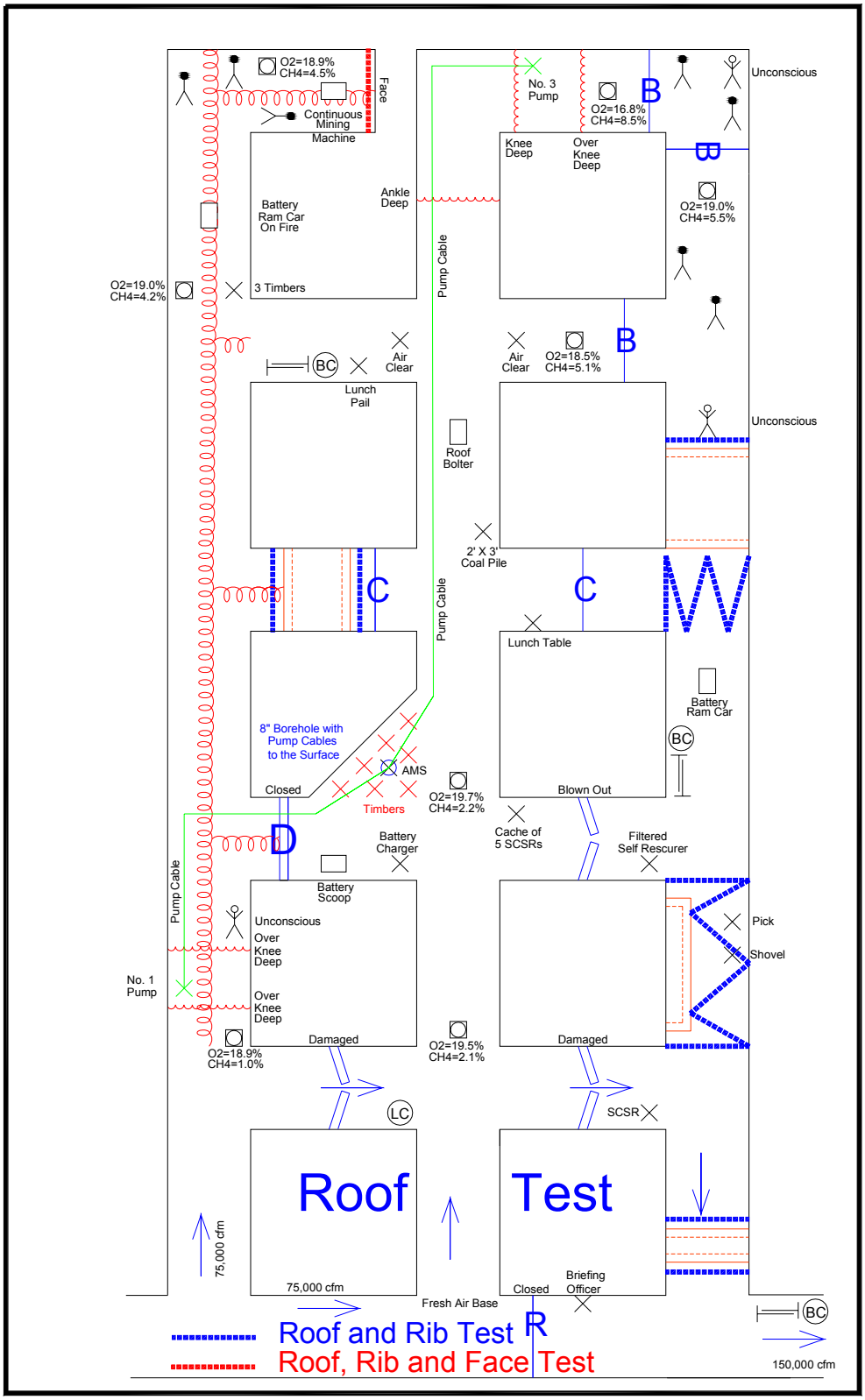
50,000 CFM
50,000 CFM
50,000 CFM

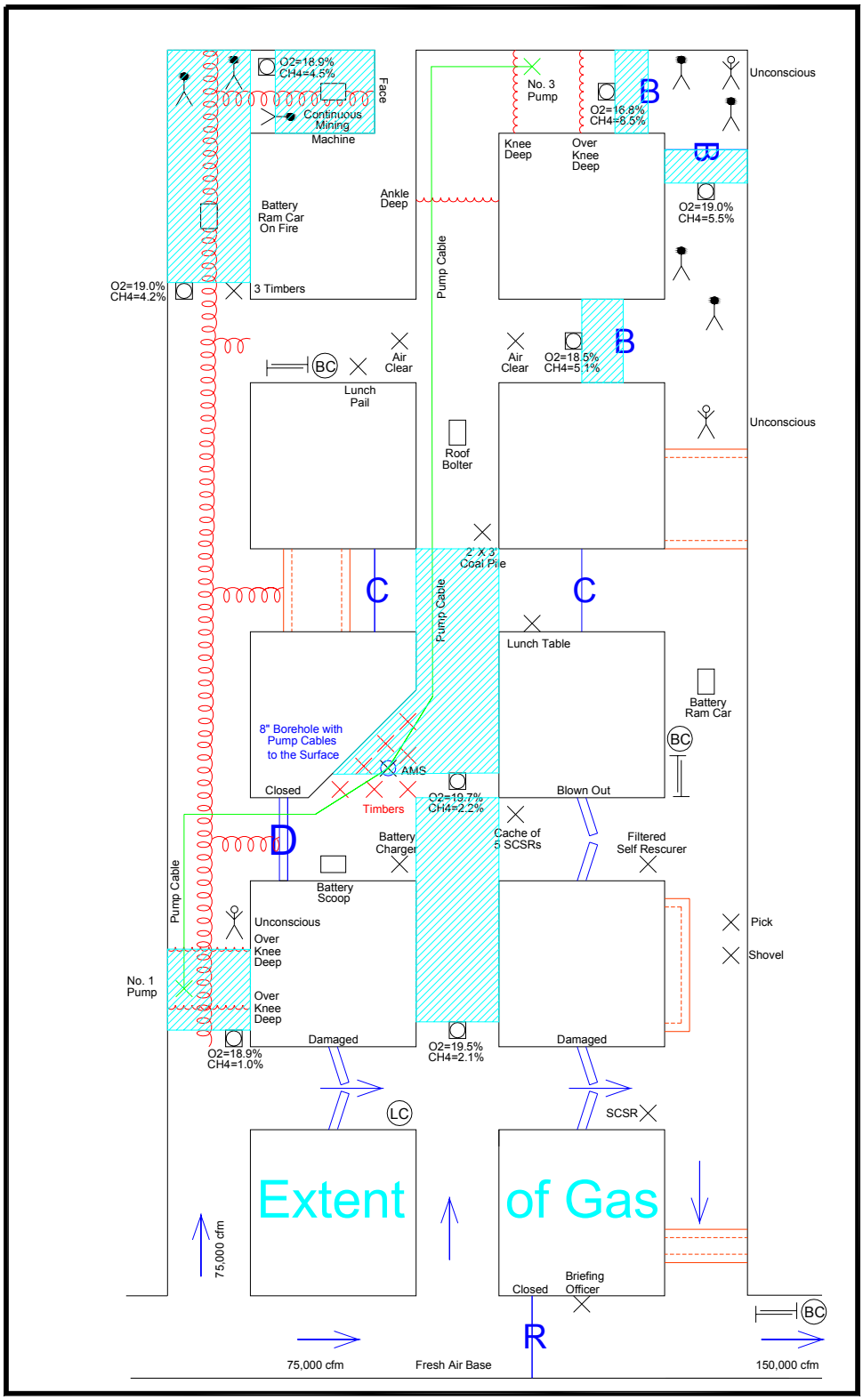

Outby Ventilation Change
Legend
Permanent Stopping
Check Curtain
Permanent Stopping w/Door
Regulator
Return Airflow
Intake Airflow
Belt Intake Airflow
Belt/Track Entry
Track Entry
Belt Entry
25,000 CFM
50,000 CFM
Build
Build
Build
Build
Build
Build
Build
Remove
Remove
Open


13
O2=18.9%
CH4=4.5%
Face
Continuous
Mining
Machine
Battery
Ram Car
On Fire
3 Timbers
Ankle
Deep
O2=19.0%
CH4=4.2%
9
BC
Air
Clear
Lunch
Pail
10
C
8" Borehole with
Pump Cables
to the Surface
Closed
AMS
Timbers
11
D
Battery
Scoop
Unconscious
Over
Knee
Deep
Over
Knee
Deep
Damaged
O2=18.9%
CH4=1.0%
Pump Cable
No. 1
Pump
3
LC
Team
75,000 cfm
12
No. 3
Pump
O2=16.8%
CH4=8.5%
Knee
Deep
Over
Knee
Deep
B
O2=19.0%
CH4=5.5%
Pump Cable
8
Air
Clear
O2=18.5%
CH4=5.1%
Roof
Bolter
2' X 3'
Coal Pile
6
C
Pump Cable
O2=19.7%
CH4=2.2%
4
Battery
Charger
O2=19.5%
CH4=2.1%
1
Stops
Briefing
Closed
Officer
R
Fresh Air Base
Lunch Table
Blown Out
Cache of
5 SCSRs
Damaged
7
Battery
Ram Car
BC
Filtered
Self Rescurer
5
SCSR
2
Pick
Shovel
Unconscious
Unconscious
BC
150,000 cfm


DI
O2=18.9%
CH4=4.5%
Face
Continuous
Mining
Machine
Battery
Ram Car
On Fire
3 Timbers
O2=19.0%
CH4=4.2%
Ankle
Deep
Pump Cable
No. 3
Pump
O2=16.8%
CH4=8.5%
Knee
Deep
Over
Knee
Deep
Unconscious
O2=19.0%
CH4=5.5%
B
BC
Air
Clear
Lunch
Pail
Air
Clear
O2=18.5%
CH4=5.1%
Roof
Bolter
2' X 3'
Coal Pile
C
Lunch Table
Battery
Ram Car
8" Borehole with
Pump Cables
to the Surface
Closed
AMS
Timbers
O2=19.7%
CH4=2.2%
Blown Out
Cache of
5 SCSRs
D
Battery
Charger
Filtered
Self Rescurer
Battery
Scoop
Unconscious
Over
Knee
Deep
Over
Knee
Deep
Damaged
O2=18.9%
CH4=1.0%
O2=19.5%
CH4=2.1%
Damaged
Pick
Shovel
No. 1
Pump
LC
SCSR
Date and Initial
75,000 cfm
75,000 cfm
Fresh Air Base
Closed
Briefing
Officer
R
DI Date and Initial
150,000 cfm


O2=18.9%
CH4=4.5%
Face
Continuous
Mining
Machine
No. 3
Pump
O2=16.8%
CH4=8.5%
B
Unconscious
Knee
Deep
Over
Knee
Deep
Ankle
Deep
Battery
Ram Car
On Fire
3 Timbers
O2=19.0%
CH4=5.5%
Pump Cable
O2=19.0%
CH4=4.2%
Air
Clear
BC
Lunch
Pail
Air
Clear
O2=18.5%
CH4=5.1%
B
Unconscious
Roof
Bolter
2' X 3'
Coal Pile
C
C
Pump Cable
Lunch Table
Battery
Ram Car
8" Borehole with
Pump Cables
to the Surface
AMS
Closed
Timbers
O2=19.7%
CH4=2.2%
Blown Out
BC
Cache of
5 SCSRs
Filtered
Self Rescuer
D
Battery
Charger
Battery
Scoop
Pump Cable
Unconscious
Over
Knee
Deep
Pick
Shovel
No. 1
Pump
Over
Knee
Deep
Damaged
Damaged
O2=18.9%
CH4=1.0%
O2=19.5%
CH4=2.1%
LC
SCSR
Gas
Test
75,000 cfm
Closed
Briefing
Officer
75,000 cfm
Fresh Air Base
R
BC
150,000 cfm
Gas Test (CH4, O2 and CO)


O2=18.9%
CH4=4.5%
Face
Continuous Mining Machine
Battery Ram Car On Fire
3 Timbers
O2=19.0%
CH4=4.2%
Ankle Deep
Pump Cable
No. 3 Pump
O2=16.8%
CH4=8.5%
Knee Deep
Over Knee Deep
Unconscious
O2=19.0%
CH4=5.5%
BC
Air Clear
Lunch Pail
Air Clear
O2=18.5%
CH4=5.1%
Roof Bolter
Unconscious
2' X 3' Coal Pile
C
C
W
Lunch Table
Battery Ram Car
8" Borehole with Pump Cables to the Surface
Closed
AMS
Timbers
O2=19.7%
CH4=2.2%
Blown Out
BC
Cache of 5 SCSRs
Filtered Self Rescurer
D
Battery Charger
Battery Scoop
Pump Cable
Unconscious
Over Knee Deep
Over Knee Deep
No. 1 Pump
Damaged
O2=18.9%
CH4=1.0%
O2=19.5%
CH4=2.1%
Damaged
Pick
Shovel
LC
SCSR
Roof
Test
75,000 cfm
75,000 cfm
Closed
Briefing Officer
Fresh Air Base
R
BC
150,000 cfm
Roof and Rib Test
Roof, Rib and Face Test


O2=18.9%
CH4=4.5%
Face
Continuous
Mining
Machine
No. 3
Pump
O2=16.8%
CH4=8.5%
B
Unconscious
Knee
Deep
Over
Knee
Deep
B
O2=19.0%
CH4=5.5%
Ankle
Deep
Battery
Ram Car
On Fire
Pump Cable
O2=19.0%
CH4=4.2%
3 Timbers
BC
Air
Clear
Air
Clear
O2=18.5%
CH4=5.1%
B
Lunch
Pail
Unconscious
Roof
Bolter
2 X 3
Coal Pile
C
C
Pump Cable
Lunch Table
Battery
Ram Car
8" Borehole with
Pump Cables
to the Surface
BC
AMS
Closed
Timbers
O2=19.7%
CH4=2.2%
Blown Out
D
Battery
Charger
Cache of
5 SCSRs
Filtered
Self Rescurer
Pump Cable
Battery
Scoop
Unconscious
Over
Knee
Deep
Pick
Shovel
No. 1
Pump
Over
Knee
Deep
Damaged
Damaged
O2=18.9%
CH4=1.0%
O2=19.5%
CH4=2.1%
LC
SCSR
Extent
of Gas
75,000 cfm
Closed
Briefing
Officer
BC
R
75,000 cfm
Fresh Air Base
150,000 cfm

VENTILATION

There may be several scenarios for ventilation of the barricade. Team may choose to ventilate by keeping the section air at the fresh air base the same as they found it. Should they choose this option, they must set the timbers inby the FAB in the unsafe roof because they will be moving an irrespirable atmosphere through the unexplored area when all victims have not been located.

VENTILATION OPTION NO. 1

NOTE: Team may use only the No. 3 entry as a return due to the location of the briefing officer and the moving of contaminated atmospheres over his location. This is dependent upon when the team chooses to make the vent changes outby. Should they make changes outby at this time, other entries may be utilized.

Team may short circuit the ventilation across the FAB by opening the regulator or having the briefing officer do this and then changes may be made in the ventilation controls on the section without affecting ventilation. Should team leave the regulator closed, they may still make some of the changes prior to affecting ventilation so long as the two damaged stoppings in the line of first crosscuts are not rebuilt until the last step in the process. Team must use the No. 1 entry as the intake so that No. 2 entry may be used as a partial return and No. 3 entry for the final return entry due to briefing officer location.

NOTE: Team must build to isolate the face of the No. 2 entry if they have not yet pumped the water over knee deep. This is because they do not know what is inby the water until they can explore this area.

Team will convert the curtain in the crosscut between 1-3 and 2-3 into a stopping. Team will convert the curtain between 2-3 and 3-3 into a stopping. NOTE: Team must convert this check curtain into a stopping or risk moving an explosive mixture from in front of the barricade over the battery ram car. Team must build inby the FAB in No. 2 entry either in the first or second block to prevent all of the intake air from short circuiting inby in that entry and over into the No. 3 entry as the path of least resistance. The last steps in the process of ventilating the face of the barricade will be to repair the damaged stoppings to the left and right of 2-1 intersection and to close the regulator at the FAB if it

had been previously opened. NOTE: Team may consider moving the regulator to the other side of the briefing officer for ease of communication during this process, or at any time during the working of the problem. If team decides to take this option, they must build and block off inby the FAB in No. 2 entry to prevent the location of the briefing officer from becoming irrespirable during the ventilation process (dependent upon timing of outby vent changes). Team must install the timbers through the unsafe roof inby the FAB in No. 3 entry to facilitate its use as a return so that the area may be explored for ventilation purposes. Should team fail to install the timbers through the unsafe roof and still use the area for ventilation purposes, they will be discounted appropriately.

If the team moves an **irrespirable** atmosphere over the unsafe roof without exploring while persons are unaccounted for, then discount will be as follows:

Rule 30F – Ventilating an unexplored area with irrespirable air when the location of a potentially live person is unknown. Any unaccounted for person is considered to be a potentially live person……This discount will be assessed for each irrespirable mixture passed over each unexplored area (# of mixtures X # of unaccounted for persons (maximum 3 persons).

If the team moves an **explosive** mixture over the unsafe roof without exploring, then discount will be as follows:

Rule 31C – Changing conditions of the mine ventilation in such a manner than an explosive mixture is moved over an unexplored area. This discount will be assessed for each explosive mixture passed over an unexplored area. (# of mixtures X # of areas X 30 point discount).

Team may hang a line curtain to ventilate the face of the barricade and clear the explosive atmosphere. Team must close the regulator or block the No. 2 entry from being used as a return in some fashion or the location of the briefing officer will be contaminated. This will clear the barricade for the team to enter.

Team may then build and enter the barricade as conditions on the other side are unknown. They will find the two bodies and the one unconscious victim. At this team stop, while preparing to remove the patient to the FAB, team may make all examinations required and conduct appropriate gas tests and roof tests inby the unsafe roof. Team will locate the barricade inby the crosscut from which there will be no response. Team will then

remove the patient to the fresh air base. Team must now ventilate the remaining barricade by either ventilating the No. 3 side or the 2 Left side of the barricade.

VENTILATION OF BARRICADE NO. 2

NOTE: When team arrives at the fresh air base with the patient from the barricade No. 1, judge will hand the team captain the following note.

THE AMS READING AT THE BOREHOLE IS NOW AS FOLLOWS.

CO equals 108 parts per million

CH4 equals 5.2 percent

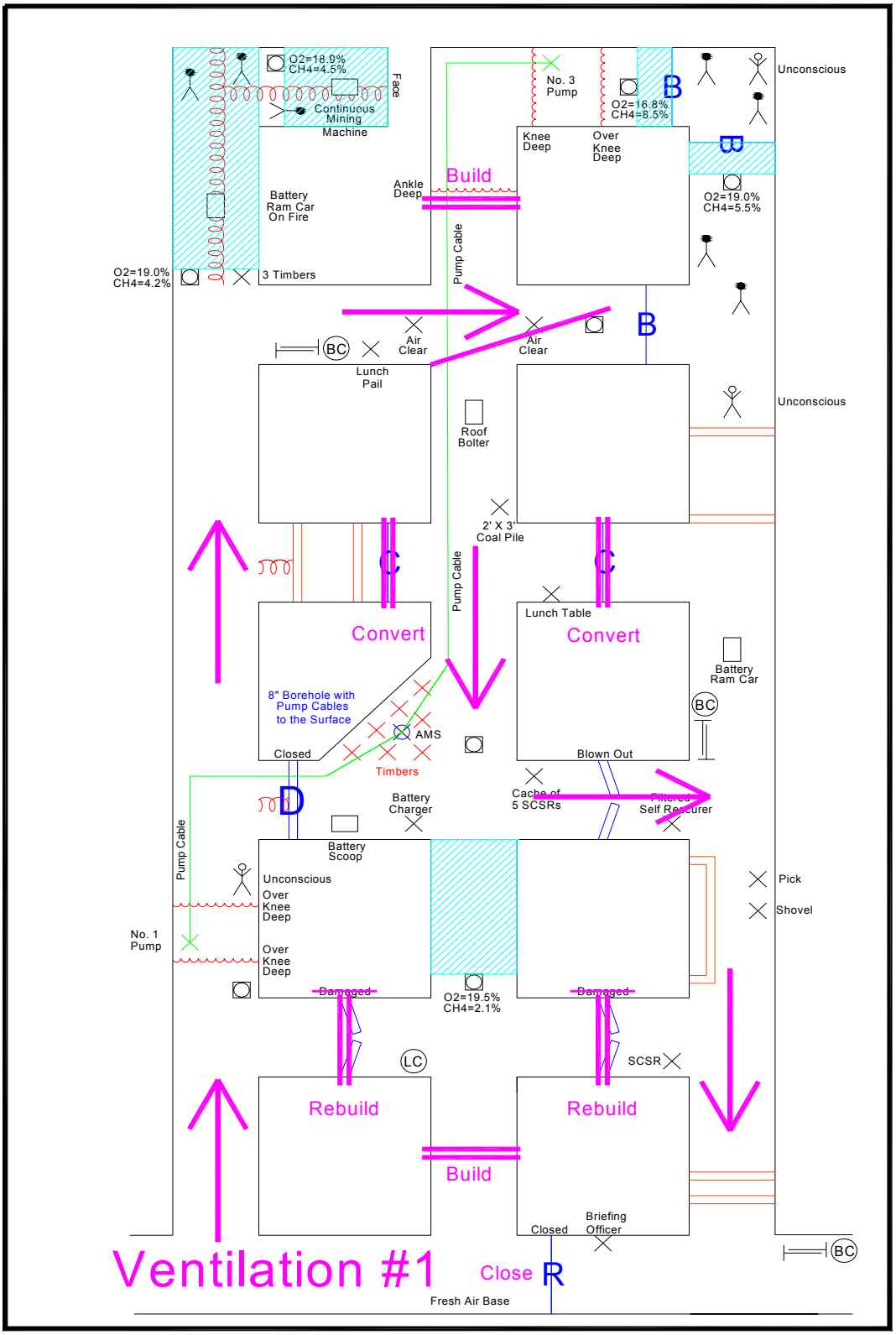
O2 equals 19.7 percent

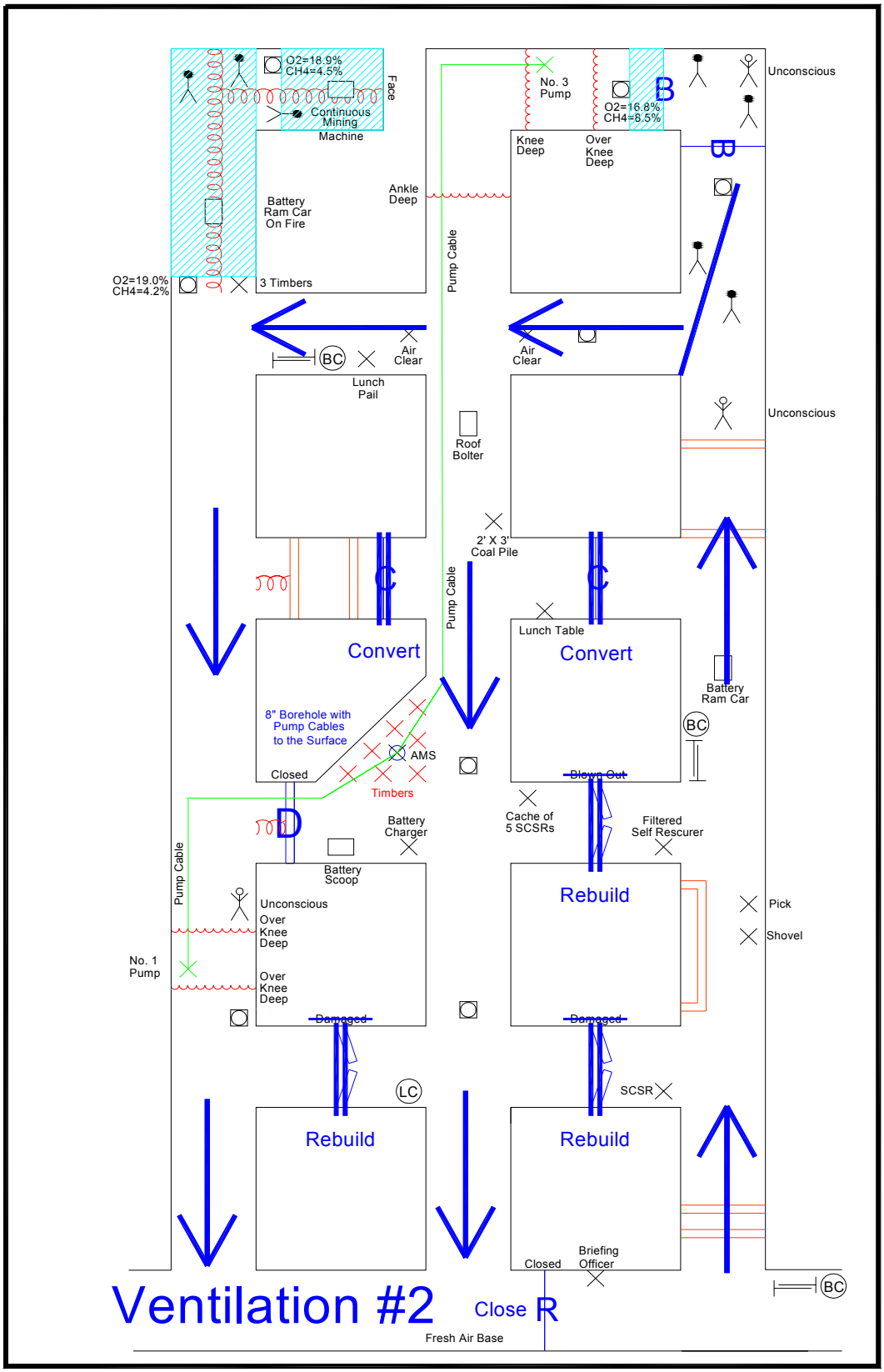
If team has not yet energized the pump cable down the borehole in order to pump the water over knee deep in the 2 left face, the cable cannot now be energized. If the cable has been energized for any reason and the power has been left on, an explosion has occurred within the borehole that may have affected the underground workings. Team will be discounted accordingly with these scenarios should they occur.

Readings from the borehole will remain constant once this reading has been given. Judge at FAB will inform briefing officer at five minute intervals that the reading remains the same as that last given to the team captain.

Team must now ventilate the No. 3 side of the barricade, leaving the No. 2 side isolated. There are no timbers with which to explore the unsafe roof outby the barricade so there can be no contaminant moved through the area or team will be discounted appropriately. Team may now request that ventilation changes to made outby them in the areas previously explored by other teams to facilitate this ventilation. The ventilation requires that the No. 3 entry be changed from a return into an intake.

Team must rebuild the blown out stopping between 2-2 and 3-2. The regulator at the FAB must remain closed. Team will hang line curtain and ventilate the face of the barricade. Team must build to enter the barricade as conditions are unknown. Team will air lock, enter the barricade, and locate the two bodies and the unconscious patient. Team may examine the area within the barricade and remove the patient to the fresh air base.


O2=18.9%
CH4=4.5%
Face
Continuous Mining Machine
Battery Ram Car On Fire
3 Timbers
O2=19.0%
CH4=4.2%
Ankle Deep
Build
Pump Cable
No. 3 Pump
O2=16.8%
CH4=8.5%
Knee Deep
Over Knee Deep
Unconscious
O2=19.0%
CH4=5.5%
B
BC
Air Clear
Air Clear
Lunch Pail
Roof Bolter
2' X 3' Coal Pile
Unconscious
C
C
Convert
Convert
Lunch Table
Battery Ram Car
8" Borehole with Pump Cables to the Surface
AMS
Closed
Timbers
Blown Out
D
Battery Charger
Cache of 5 SCSRs
Self Rescurer
Battery Scoop
Pump Cable
Unconscious
Over Knee Deep
Over Knee Deep
No. 1 Pump
Pick
Shovel
Damaged
Damaged
O2=19.5%
CH4=2.1%
LC
SCSR
Rebuild
Rebuild
Build
Briefing Officer
Closed
Ventilation #1
Close
R
Fresh Air Base
BC


O2=18.9%
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Face
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3 Timbers
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Knee Deep
Over Knee Deep
Unconscious
Air Clear
Lunch Pail
Roof Bolter
2' X 3' Coal Pile
Lunch Table
Convert
8" Borehole with Pump Cables to the Surface
AMS
Closed
Timbers
Blown Out
Cache of 5 SCSRs
Filtered Self Rescurer
Battery Ram Car
Battery Charger
Battery Scoop
Unconscious
Over Knee Deep
Damaged
Rebuild
Pick
Shovel
No. 1 Pump
SCSR
Briefing Officer
Ventilation #2
Close
Fresh Air Base

Five (5) Minutes

CO equals 9 Parts Per Million

CH_4 equals 2.1%

O_2 equals 19.9%

Ten (10) Minutes

CO equals 10 Parts Per Million

CH_4 equals 2.2%

O_2 equals 19.9%

Fifteen (15) Minutes

CO equals 15 Parts Per Million

CH_4 equals 2.3%

O_2 equals 19.8%

Twenty (20) Minutes

CO equals 20 Parts Per Million

CH_4 equals 2.5%

O_2 equals 19.7%

Twenty Five (25) Minutes

CO equals 22 Parts Per Million

CH_4 equals 2.6%

O_2 equals 19.7%

Thirty (30) Minutes

CO equals 30 Parts Per Million

CH_4 equals 2.7%

O_2 equals 19.7%

Thirty Five (35) Minutes

CO equals 30 Parts Per Million

CH_4 equals 2.8%

O_2 equals 19.6%

Forty (40) Minutes

CO equals 35 Parts Per Million

CH_4 equals 2.9%

O_2 equals 19.6%

Forty Five (45) Minutes

CO equals 38 Part Per Million

CH_4 equals 3.0%

O_2 equals 19.5%

Fifty (50) Minutes

CO equals 49 Parts Per Million

CH_4 equals 3.2%

O_2 equals 19.3%

Fifty Five (55) Minutes

CO equals 43 Parts Per Million

CH_4 equals 3.5%

O_2 equals 19.0%

Sixty (60) Minutes

CO equals 45 Parts Per Million

CH_4 equals 3.6%

O_2 equals 19.0%

Sixty-Five (65) Minutes

CO equals 47 Parts Per Million

CH_4 equals 3.7%

O_2 equals 19.0%

Seventy (70) Minutes

CO equals 49 Parts Per Million

CH_4 equals 3.8%

O_2 equals 18.9%

Seventy Five (75) Minutes

CO equals 49 Part Per Million

CH_4 equals 3.9%

O_2 equals 18.8%

Eighty (80) Minutes

CO equals 49 Part Per Million

CH_4 equals 3.9%

O_2 equals 18.8%

Eighty Five (85) Minutes

CO equals 49 Part Per Million

CH_4 equals 3.9%

O_2 equals 18.8%

Ninety (90) Minutes

CO equals 49 Part Per Million

CH_4 equals 3.9%

O_2 equals 18.8%

NOTE: When team arrives at the fresh air base with the patient from the barricade No. 1, judge will hand the team captain the following note.

THE AMS READING AT THE BOREHOLE IS NOW AS FOLLOWS.

CO equals 108 parts per million

CH4 equals 5.2 percent

O2 equals 19.7 percent